

LEAN REFLUX-HIGH HYDROCARBON RECOVERY PROCESS

ABSTRACT OF THE DISCLOSURE

A two-tower scheme process for the recovery of propane and heavier components from a hydrocarbon gas stream is provided. Feed gas is cooled, partially condensed, and then separated to give a first liquid stream and a first vapor stream. First liquid stream is sent to a distillation tower that recovers at the bottoms a major portion of propane and heavier components and produces an overhead gas stream. First vapor stream is expanded and sent as bottom feed to the absorber. Absorber produces an absorber overhead stream containing essentially all the ethane and lighter components and an absorber bottoms stream. Absorber bottoms stream is heated and sent to the distillation tower as middle feed. Absorber overhead stream is warmed and optionally compressed. A part of the compressed stream is substantially condensed and sent to absorber as top feed. The process and apparatus can be used to recover ethane and heavier hydrocarbons.